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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/823,948	03/30/2001	John M. Pedersen	291958101US	7598

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EXAMINER

MUTSCHLER, BRIAN L

ART UNIT	PAPER NUMBER
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1753

DATE MAILED: 06/20/2003

13

Please find below and/or attached an Office communication concerning this application or proceeding.

AS-12

Office Action Summary	Application No. 09/823,948	Applicant(s) PEDERSEN ET AL.	
	Examiner Brian L. Mutschler	Art Unit 1753	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 May 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-70 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 28-42, 69 and 70 is/are allowed.
- 6) ☒ Claim(s) 1, 11, 12, 15-17, 22-24, 27, 43, 53, 54, 57-59, 64-66 and 68 is/are rejected.
- 7) ☒ Claim(s) 2-10, 13, 14, 18-21, 25, 26, 44-52, 55, 56, 60-63 and 67 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 March 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 6, 8, 11.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Comments

1. The preliminary amendment received June 24, 2002, has not been entered because it was not in the proper format. Changes to the specification should include the entire paragraph. Please submit the changes indicated in the preliminary amendment in the proper format.
2. Applicant's cancellation of claims 71 and 72 in Paper No. 10 is acknowledged.

Election/Restrictions

3. Applicant's election without traverse of Group I, claims 1-70, in Paper No. 10 is acknowledged.

Specification

4. The disclosure is objected to because of the following informalities:
 - a. On page 6 at line 15, please change "Figure 8" to --Figure 7--.
 - b. On page 12 at lines 19 and 20, the ranges for the thickness T do not appear to be consistent in magnitude.
 - c. On page 15 at lines 12, 13 and 17, please change "seal 510" to --seal 508--. (These changes are in addition to the changes shown in the non-entered preliminary amendment.)

Appropriate correction is required.

Claim Objections

5. Claims 1, 44-63 and 65-67 are objected to because of the following informalities:
- a. In claim 1 at line 9, please insert --the-- before "opening".
 - b. In claims 44-56, 58-63 and 65-67, please change the preamble from "The contact assembly" to --The reactor system--. (This change was indicated on the non-entered preliminary amendment.)
 - c. In claim 57 at line 14, please insert --a-- before "lip".

Appropriate correction is required.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 15-21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 15 recites the limitation "the lip of the shield" in line 13. There is insufficient antecedent basis for this limitation in the claim. It is suggested that the phrase either be changed to --a lip of the shield-- or by providing proper antecedent basis for the lip in the limitations relating to the shield. The same applies to dependent claims 16-21.

Double Patenting

8. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

9. Claims 1, 11, 12, 15-17, 22-24, 27, 43, 53, 54, 57-59, 64-66 and 68 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-61 of U.S. Patent No. 6,309,520. Although the conflicting claims are not identical, they are not patentably distinct from each other because it would have been obvious to one skilled in the art that using the various claimed features in one embodiment would provide all of the benefits associated with each feature.

Regarding claims 1, 15, 22, 27, 43, 57, 64 and 68, US '520 claims a reactor system comprising a bowl for containing an electroplating solution, an anode in the bowl, a moveable processing head, and a contact assembly having a contact support member, a plurality of inwardly extending contacts and a barrier with a lip for engaging the surface of the workpiece (claims 19-28). The barrier can also comprise an elastomeric seal to engage the workpiece (claim 27).

Regarding claims 11, 12, 16, 17, 23, 24, 53, 54, 58, 59, 65 and 66, the support member is composed of a conductive material and has an outer body member formed from a dielectric material (claim 5). The contact assembly comprises a plurality of cantilevered contacts projecting radially inwardly (claim 19). (The phrase "radially inwardly" implies a circular geometry, i.e., an annular support member and a contact ring.) The contacts may also project inwardly at an angle relative to a radius of the support ring (claim 35).

The claimed apparatus of US '520 differs from the instant invention because US '520 does not claim all of the features in similar embodiments, as recited in the instant claims.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the apparatus of US '520 to incorporate all of the claimed features in similar apparatuses because the additional features would provide the added benefits associated with those features. For example, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the apparatus to use both a support member and an elastomeric seal because the device would be capable of supporting a workpiece and providing a seal to prevent electrolyte from passing the barrier.

10. Claims 1, 11, 12, 15-17, 22-24 and 27 rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-39

of U.S. Patent No. 6,309,524. Although the conflicting claims are not identical, they are not patentably distinct from each other because it would have been obvious to one skilled in the art that using the various claimed features in one embodiment would provide all of the benefits associated with each feature.

Regarding claims 1, 15, 22 and 27, US '524 claims a contact assembly comprising a conductive support structure having an opening, a dielectric outer body attached to the support structure having a barrier with a lip to engage a workpiece, and a contact system having a plurality of contact members projecting inwardly (claims 1 and 28). The barrier may also have an elastomeric seal member for engaging the workpiece (claim 16).

Regarding claims 11, 12, 16, 17, 23 and 24, US '524 claims the support structure may comprise a conductive ring having an attached dielectric outer body (claims 21 and 22). The contact system may comprise a contact ring having a plurality of contacts extending radially inwardly or inwardly at an angle with respect to the radius (claims 3 and 4).

The claimed apparatus of US '524 differs from the instant invention because US '524 does not claim all of the features in similar embodiments, as recited in the instant claims.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the apparatus of US '524 to incorporate all of the claimed features in similar apparatuses because the additional features would provide the added benefits associated with those features. For example, it would have been

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obvious to one having ordinary skill in the art at the time the invention was made to have modified the apparatus to use both a support member and an elastomeric seal because the device would be capable of supporting a workpiece and providing a seal to prevent electrolyte from passing the barrier.

11. Claims 1, 11, 15, 16, 22, 23, 27, 43, 53, 57, 58, 64, 65 and 68 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-42 of copending Application No. 09/998,142.

Although the conflicting claims are not identical, they are not patentably distinct from each other because it would have been obvious to one skilled in the art that using the various claimed features in one embodiment would provide all of the benefits associated with each feature.

Regarding claims 1, 15, 22, 27, 43, 57, 64 and 68, the copending application claims a reactor comprising a bowl with an electroplating solution, an anode, a moveable head assembly, a contact assembly comprising a plurality of contacts, and a barrier for engaging the workpiece and protecting the contacts from the electrolyte (claims 1 and 16). The barrier may comprise an elastomeric seal for engaging the workpiece (claim 14).

Regarding claims 11, 16, 23, 53, 58 and 65, the contact assembly may comprise an outer body made of a dielectric and a contact support member made of a conductive material (claim 6). The contact assembly may comprise a contact ring (claims 2 and 3).

The claimed apparatus of the copending application differs from the instant invention because the copending application does not claim all of the features in similar embodiments, as recited in the instant claims.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the apparatus of the copending application to incorporate all of the claimed features in similar apparatuses because the additional features would provide the added benefits associated with those features. For example, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the apparatus to use both a support member and an elastomeric seal because the device would be capable of supporting a workpiece and providing a seal to prevent electrolyte from passing the barrier.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Allowable Subject Matter

12. Claims 2-10, 13, 14, 18, 19-21, 25, 26, 44-52, 55, 56, 60-63 and 67 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

13. Claims 28-42, 69 and 70 are allowable over the prior art of record.

14. Claims 15-21 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action.

15. The following is a statement of reasons for the indication of allowable subject matter: The subject matter of claims 1-70 is distinguished over the prior art of record because it provides a separate shield and supporting member, wherein the shield comprises a seal for preventing the electrolyte from contacting the contact assembly. This feature can be beneficial because it provides the seal on a member other than the support member, which is typically a rigid member for supporting the workpiece. By using a separate shield, additional degrees of freedom are provided for the seal, which can provide a more effective seal by allowing the seal member to move in relation to the contacting surface.

In the prior art devices, the seal is typically attached directly to the supporting member. For example, in U.S. Pat. No. 6,159,354, Contolini et al. teach the use of a seal **72** affixed to the support member **70** (see figure 2A). While the seal **72** is used for preventing the solution from contacting the contacts **78**, the apparatus does not use a shield, and does not have any additional degrees of freedom not associated with the support member itself, i.e., the degree of movement in the seal is bound by the movement of the supporting member. A second example is provided in U.S. Pat. No. 5,227,041, where Brogden et al. teach a similar structure comprising a seal **40** directly affixed to the workpiece support (see figures 2 and 3).

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Conclusion

16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following references show devices having seal members preventing the electrolyte from contacting the contact assembly:

U.S. Pat. No. 6,540,899 B2	Keigler
U.S. Pat. No. 6,579,430 B2	Davis et al.
US 2003/0010640 A1	Kholodenko

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian L. Mutschler whose telephone number is (703) 305-0180. The examiner can normally be reached on Monday-Friday from 8:00am to 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam Nguyen can be reached on (703) 308-3322. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.



NAM NGUYEN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700

blm
June 17, 2003